

Work Order ID 89862

89862

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September-12-12 7:52:12 AM

Item ID: DSK134-3 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Swaging test sample -Welded w/o I-beam
 Start Date: 9/12/12 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 9/21/12 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: ✓ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								

110

0.00

110

Skidtubes

Skidtubes

Memo

0.00

1- PICK D2600-1 EXTRUSION AND CUT AS PER DWG

2- DRILL HOLES IN D2600-1 AS PER DWG

3- CHAMFER HOLE AS PER DWG

DP 12-9-10

120

QC5- Inspect part completeness to step on W/O

0.00

120

QC

Quality Control

Memo

0.00

5 12 0 12-09-19 DAS 18

89862

September-12-12 7:52:12 AM

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run** **Start** ***NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Weld per dwg A/R Aluminum rod Batch: _____	0.00							
130									
Large Fab									
Large Fab									
	Memo	0.00							
	1- WELD PER DWG								
	2- GRIND FLUSH AS PER DWG								
	3- C'BORE AS PER DWG								
140	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
140									
QC									
Quality Control	Memo	0.00							
150	QC5- Inspect part completeness to step on W/O	0.00							
150									
QC									
Quality Control	Memo	0.00							

Work Order ID 89862

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89862

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Item ID: DSK134-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Swaging test sample -Welded w/o I-beam
Start Date: 9/12/12 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 9/21/12 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160									
Eng	Memo	0.00							
Engineering	PERFORM ENGINEERING TEST								
170	QC5- Inspect part completeness to step on W/O	0.00							
170									
QC	Memo	0.00							
Quality Control									
180	Identify as per dwg & Stock Location: _____	0.00							
180									
Packaging	Memo	0.00							
Packaging									

N/A test only

P 12/10/13

89862

September-12-12 7:52:12 AM

N900040100

Stop *NS2*

Run Start *NR1*

Stop ***NR2***

MMF
(3-7-8)

Picklist Print

September-12-12 7:52:12 AM

Page 1

Work Order ID: 89862

Parent Item: DSK134-3

Parent Item Name: Swaging test sample -Welded w/o I-beam

Start Date: 9/12/12

Required Date: 9/21/12

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 12.09.11 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1 - 190 Extrusion Round 3" 206		Manufactured	No	B69622			Each	0.0000		12-9-10			
D2649 Cross Bolt Spacer		Manufactured	No				Each	262.0000		1			

Location

Loc Qty

Loc Code

LG	262	
85586	4	
86912	3	
87645	89	
88529	166	

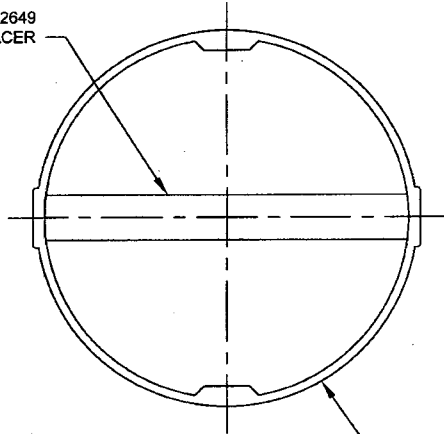
B90967 x5

BE 12-10-03

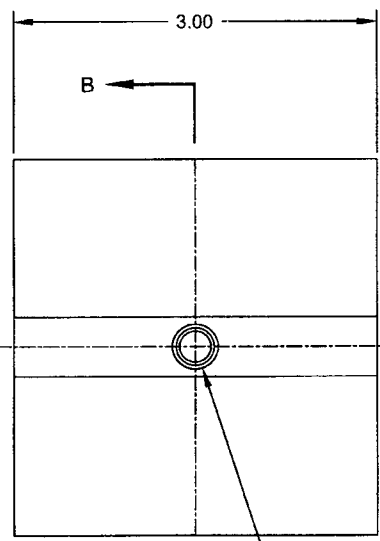
BE 12-09-19

w/o 89862

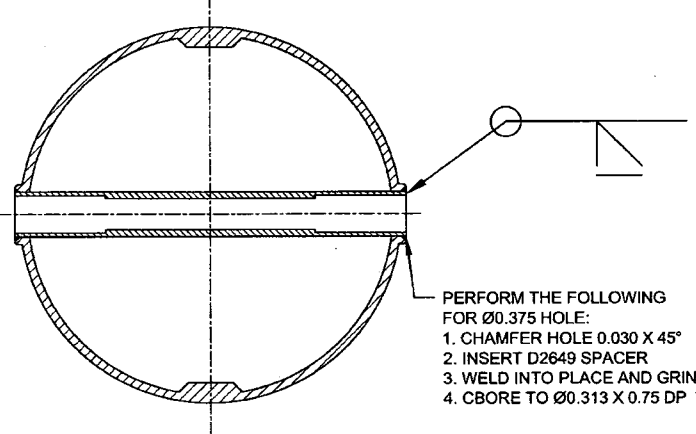
D2649
SPACER



D2600-1
EXTRUSION



DRILL D2600-1: Ø0.375



- PERFORM THE FOLLOWING
FOR Ø0.375 HOLE:
1. CHAMFER HOLE 0.030 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORE TO Ø0.313 X 0.75 DP

SECTION B-B

DSK134-3 TEST SAMPLE (WELDED W/O I-BEAM)

PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
4/ 12/9/11

DESIGN	<i>JP</i>	DART AEROSPACE LTD	
DRAWN	<i>JP</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		DSK 134	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		SWAGING TEST SAMPLES (206 SKID)	NTS
DATE	12.09.11	<small>COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESSED CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

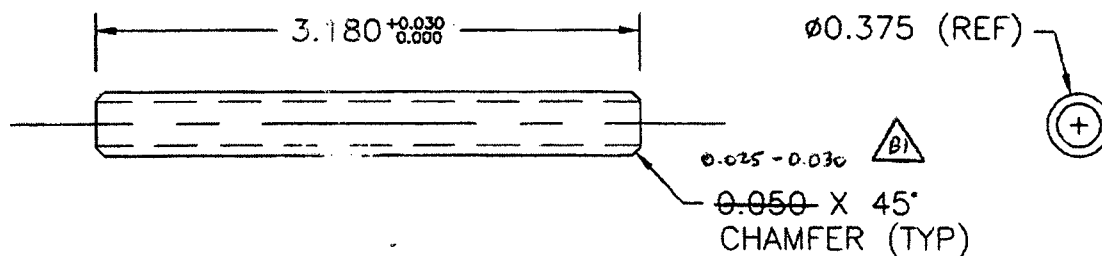
Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		



DESIGN <i>DM</i>	DRAWN BY <i>KE</i>	DART AEROSPACE USA, INC. FAIRCHILD INTERNATIONAL AIRPORT, WA	
CHECKED <i>DM</i>	APPROVED <i>BW</i>	DRAWING NO. D2649	REV. B SHEET 1 OF 1
DATE 98.01.14		TITLE CROSS BOLT SPACER	SCALE 1:1
A	97.03.25	NEW ISSUE	
B	98.01.14	3.180 WAS 3.230, ADD CHAMFER	
B1	<i>CP</i> 02.06.13	REDUCE CHAMFER PER TSR 1296.	

RELEASED
98.01.20 DS

SHOP
REVISION
ENGINEER
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 79566 M.6 J
12/01/27



MATERIAL: 6061-T6 (WW-T-700/6) OR 5052-H32 (WW-T-700/4)
0.375 DIA 0.058 WALL
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

Receiving Report

Date: 12/2/9
 Supplier: Manner

Batch No: n/20633
 Dart P/O: 16093

Packing Slip: Yes ☒ No ☐
 Invoice: Yes ☐ No ☒
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐
 Waybill Attached: Yes ☒ No ☐
 Shipment Complete: Yes ☒ No ☐ N/A ☐
 QC6 Inspection 12/2/09 N/A ☒
 Work Order N/A ☒

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12

Production/Admin:
 Date
 Received/Costing
 Initial

Location

Purchase Order Receipt Listing

Page 1 of 2

February 10, 2012 8:05:47 AM

All amounts are calculated in domestic currency.

All Vendors PO ID PO16093 All Receipt Dates All Line Item Types
All Item ID/GL/WOs All Rec. Employees All Currencies
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID\Vendor Name		VC-MAR001 Marmon/Keystone Canada Ltd.									
PO16093	1		M304TR0.500W.035 f		2/08/12	2/09/12	300.0000	\$0.95	0.0000	0	\$284.20
CAD	No		304 RD Tube .500 x .035W	f	300.0000	DESJ02		\$284.20	0.0000	0	
			120633								
	2		M304TR0.500W.049 f		2/08/12	2/09/12	200.0000	\$1.25	0.0000	0	\$249.30
	No		304 RD Tube .500 x .049W	f	200.0000	DESJ02		\$249.30	0.0000	0	
			120633								
	3		M304TR0.675W.091 f		2/08/12	2/09/12	100.0000	\$1.40	0.0000	0	\$139.61
	No		304 RD Tube .675 x .091W	f	100.0000	DESJ02		\$139.61	0.0000	0	
			120633								
	4		M304TS0.750W.065 f		2/08/12	2/09/12	500.0000	\$2.29	0.0000	0	\$1,146.78
	No		304 SQ Tube .75x.75x.065W	f	500.0000	DESJ02		\$1,146.78	0.0000	0	
			120633								
	5		M6061T6T0.375W.058 f		2/08/12	2/09/12	312.0000	\$2.14	0.0000	0	\$668.92
	No		6061-T6 RD Tube .375 x.058W	f	312.0000	DESJ02		\$668.92	0.0000	0	
			120633								
	6		M6061T6T0.500W.058 f		2/08/12	2/09/12	108.0000	\$2.11	0.0000	0	\$228.32
	No		6061-T6 RD Tube .500 x.058W	f	108.0000	DESJ02		\$228.32	0.0000	0	
			120633								
	7		M6061T6T0.625W.065 f		2/08/12	2/09/12	108.0000	\$2.94	0.0000	0	\$317.71
	No		6061-T6 RD Tube .625 x.065W	f	108.0000	DESJ02		\$317.71	0.0000	0	
			120633								

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
------------------------------------	-----------------------------	------------	--	-----------------------	-------------------------------	---------------------------	-------------------------	------------------------------	--	-------------------------------	----------

Total Received Quantity:	1,628.0000
Total Qty to Inspect (PO U/M):	0.0000
Total Reject Quantity:	0.0000
Total Receipt Value:	\$3,034.85
Total Balance Due Quantity:	0.0000



Marmon/Keystone Canada Inc.
ACIERS SPÉCIALISÉS

290 Chemin du Tremblay
Boucherville QU CAN J4B 5X9
TEL. 514/527-9153
FAX. 450/641-4357

PACKING SLIP

PAGE... 1
Order : 1112389
Date..: 02/07/2012

SOLD TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

SHIPPED TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

SHIP VIA		F.O.B.		SALESPERSON		YOUR ORDER NO.	
TST OVERLAND #222212		BOUCHERVILLE		G. Dulude		16098	
Ordered	Description	Number Pieces	Quantity Shipped	Back Ordered			
01	Fax all papers to Linda Lacelle 613-632-1053 rev: 01/11 GD STAINLESS-STEEL SEAMLESS TUBE SMLS TUBE 304L 1/2" X .035" A213 STS .500 .035 304L Tariff Number: 7306.40.90.10 Cust. part#: M304TR0.500W.035 HT#.....: YX1004-364 Total...	15 15	300/FT 300/FT				
02	STAINLESS-STEEL SEAMLESS TUBE SMLS TUBE 304L 1/2" X .049" A213 STS .500 .049 304L Tariff Number: 7306.40.90.10 Cust. part#: M304TR0.500W.049 HT#.....: YT3349 Total...	10 10	200/FT 200/FT				
03	STAINLESS WELDED PIPE SA-312 304L WLD PIPE 3/8" SCH40 SA312 SPW .375 .091 304L Tariff Number: 7306.40.90.10 Cust. part#: M304TR0.675W.091 HT#.....: ATJ050119 HT#.....: ATS050426 HT#.....: 258189 Total...	2 2 1 5	40/FT 40/FT 20/FT 100/FT				
04	STAINLESS STEEL TUBE A554 304 ORN. TUBE 3/4" X 3/4" X .065" A554 STS .750 .750 .065 304APC Tariff Number: 7306.40.90.10 Cust. part#: M304TS0.750W.065 HT#.....: 9HP2 Total...	25 25	500/FT 500/FT				
05	Surchage de \$318.00 incluse dans le prix ALUMINUM SMLS TUBE ATS .375 .058 D6061 Tariff Number: 7608.20.00.90 Cust. part#: M6061T6T0.375W.058 HT#.....: F00013715 Total...	26 26	312/FT 312/FT				
06	ALUMINUM SMLS TUBE ATS .500 .058 D6061 Tariff Number: 7608.20.00.90						

Continued on next page..



A Marmon Distribution Services/Berkshire Hathaway Company



PAGE...: 2
Order : 1112389
Date...: 02/07/2012

PACKING SLIP

SOLD TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

SHIPPED TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

No. of Bdls/Pieces

1 / 2

Total Weight.....:

505

Customers.:



KAISER ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER: 61-17107-1		CUSTOMER PART NUMBER: AT 375.058/734		PRODUCT DESCRIPTION: Seamless Tube/Pipe	
KAISER ORDER NUMBER: 606551	LINE ITEM: 001	SHIP DATE: 01/04/2012	KAISER LOT NUMBER: F00013715	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 629.000 LB	QUANTITY: 776.000 PCS	B/L NUMBER: 602261	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO: MARMON/KEYSTONE CORP 32944 US HIGHWAY 6 SPRING VALLEY, IL 61362 USA			SOLD TO: MARMON/KEYSTONE CORP 10700 MARMON DR BOLINGBROOK, IL 60440 USA		

Actual Physical Properties

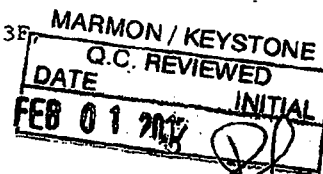
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CONDUCT.	BEND
* F00013715	0001	1	46.3	42.9	12.0	N/A	N/A	N/A
* F00013715	0002	1	46.2	42.9	12.3	N/A	N/A	N/A
* F00013715	0003	1	45.8	43.0	15.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D69881	.58	.26	.22	.06	.98	.07	.09	.02	.00	.00	.00	.01	.02
D69877	.57	.31	.25	.05	.96	.07	.06	.02	.00	.00	.00	.01	.02

Applicable Requirements:

Description: MADE IN USA
 OD: 0.375", Wall: 0.058", Round @
 AMS-4082P ASTM-B210-04 WW-T-700/6F
 WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS-4082P, WAS NOT OILED.
 THE FOLLOWING SPECIFICATIONS HAVE BEEN MADE INACTIVE OR
 CANCELLED: MIL-T-7081, WW-T-700F/GEN, WW-T-700/2E, WW-T-700/3E,
 WW-T-700/4F, WW-T-700/5E, WW-T-700/6F, and WW-T-700/7B.
 COMPLIES TO DIN EN 10204 JAN 2005
 COMPLIES TO DFAR 252.225-7001 and DFAR 252.225-7014
 No Weld Repair. Mercury Free.



Miscellaneous Notes

MANUFACTURED IN USA (CHANDLER, AZ) MELTED IN USA

A15
 .375
 .058
 D6061

KAISER

ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Alex Yeh, Quality & Technology Manager

Yeh

Q. C. REVIEWED



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO16093

Purchase Order Date 2/06/12

PO Print Date 2/06/12

Page Number 1 of 3

Order From :

VC-MAR001

MARMON/KEYSTONE CANADA LTD.
290 CHEMIN DU TREMBLAY
BOUCHERVILLE, QC J4B 5X9
CA

Contact Name

Vendor Phone 800 361 8142

Vendor Fax 450 641 4357

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

10127-2607

Tax Resale Nbr

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	M304TR0.500W.035 017	304 RD Tube .500 x .035W	2/08/12 Yes	300.00 f	TST ground	\$0.9500	\$285.00
		Special Inst: MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269					
2	M304TR0.500W.049 n	304 RD Tube .500 x .049W	2/08/12 Yes	200.00 f	TST ground	\$1.2500	\$250.00
		Special Inst: MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269					
3	M304TR0.675W.091 n	304 RD Tube .675 x .091W	2/08/12 Yes	100.00 f	TST ground	\$1.4000	\$140.00

Change Nbr: 1

Change Date: 2/06/12

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO16093

Purchase Order Date 2/06/12

PO Print Date 2/06/12

Page Number 2 of 3

Order From :

VC-MAR001

MARMON/KEYSTONE CANADA LTD.
290 CHEMIN DU TREMBLAY
BOUCHERVILLE, QC J4B 5X9
CA

Contact Name

Vendor Phone

800 361 8142

Vendor Fax

450 641 4357

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Special Inst:

MATERIAL: AISI 304/316 SS SEAMLESS
ROUND TUBING
AS PER ASTM A213 OR ASME SA213 OR
ASTM A269

MATERIAL: T304/T316 3/8 SCHEDULE
40

(REF. DART SPEC'S M304TR0.675W.091)

QTY	Part Number	Description	Unit	Price	Amount	Notes
4	M304TS0.750W.065	304 SQ Tube .75x.75x.065W	2/08/12	500.00	\$2,300.00	TST ground
			Yes	f		

Special Inst:

MATERIAL: AISI 304/316 SEAMLESS
STAINLESS
STEEL SQUARE TUBING AS PER ASTM
A554 MILL FINISH
OR ASTM A260 MILL FINISH

QTY	Part Number	Description	Unit	Price	Amount	Notes
5	M6061T6T0.375W.058	6061-T6 RD Tube .375 x.058W	2/08/12	312.00	\$2,150.00	TST ground
			Yes	f		

Special Inst:

MATERIAL: 6061-T6 OR 6061-T62
TUBING PER
WW-T-700/6 OR AMS 4080 OR AMS 4082
OR
QQ-A-200/8 OR QQ-A-225/8

QTY	Part Number	Description	Unit	Price	Amount	Notes
6	M6061T6T0.500W.058	6061-T6 RD Tube .500 x.058W	2/08/12	108.00	\$2,120.00	TST ground
			Yes	f		

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 2/06/12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO16093**

Purchase Order Date 2/06/12

PO Print Date 2/06/12

Page Number 3 of 3

Order From :

VC-MAR001

MARMON/KEYSTONE CANADA LTD.
290 CHEMIN DU TREMBLAY
BOUCHERVILLE, QC J4B 5X9
CA

Contact Name

Vendor Phone 800 361 8142

Vendor Fax 450 641 4357

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Special Inst:

MATERIAL: 6061-T6 OR 6061-T62
TUBING PER
WW-T-700/6 OR AMS 4080 OR AMS 4082
OR
QQ-A-200/8 OR QQ-A-225/8

7 M6061T6T0.625W.065 6061-T6 RD Tub 25 2/08/12 108.00 TST ground \$2.9500

\$318.60

014

Yes

f

Special Inst:

MATERIAL: 6061-T6 OR 6061-T62
TUBING PER
WW-T-700/6 OR AMS 4080 OR AMS 4082
OR
QQ-A-200/8 OR QQ-A-225/8

PO Total:

\$3,043.36

MATERIAL CERTIFICATION
REQD UPON DELIVERY

Change Nbr: 1

Change Date: 2/06/12

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable



Metcor Inc.
560, boulevard St-Jur-Sauvé
St-Eustache (Québec) J7R 5A8
TEL : 450-473-1884
Télécopieur / Fax administration : 450-451-6492
Télécopieur / Fax production : 450-451-6464

Certificat de conformité
Certificate of conformance

BON DE TRAVAIL order	CHARGEMENT load
175178	1

CLIENT / customer 218
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON KSA 1K7

LIVRÉ À / shipped to:
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON KSA 1K7

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot/number
PO16674		AL-6061		

SPÉCIFICATIONS DU PROCÉDÉ
processing specifications

BOL ANNEAL
COND.W

XIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results
Visual

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
40	0.74	D2649 CROSS BOLT SPACER CONTENANT: 1 BOÎTE DE CARTON

COMMENTAIRES / comments

INSPECTEUR / inspector:



DATE: 2012-04-17

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Recu de Livraison

Order	Shipper	Shipping Seq.
175178	1	60227

Shipped Complete

Customer **215**
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Shipped To:
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Purchase Order Number	Customer Shipper No.	Material Type	Order Date	Carrier
PO16674		AL-6061	2012/4/12	PURO
Quantity	Part No. / Part Name / Part Description			Pounds
40	D2649 CROSS BOLT SPACER			,74

CONTENANT: 1 BOÎTE DE CARTON

Container Type	# Of Containers	Container Comments
BOITE DE CARTON	1	

PACKING	
----------------	--

Quantity Shipped: 40
Pounds Shipped: 0,74
Quantity Remaining: 0
Pounds Remaining: 0,00

Quantity Shipped: 40

Pounds Shipped: 0,74

Signature:

Date:

Shipped ON: 2012/04/18

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
175178	1

CLIENT / customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
PO16674		AL-6061		

SPÉCIFICATIONS DU PROCÉDÉ processing specifications

SOL ANNEAL
COND.W
CONDITION T4

EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results
Visual

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
40	0.74	D2649 CROSS BOLT SPACER CONTENANT: 1 BOÎTE DE CARTON

Operation	Temp. spécifiée Specified Temp	Temps de trempe Spécifié Specified Soak Temp	Atmosphère	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
1.00 CONT. INIT.	LAVAGE		si nécessaire							
2.00 Degrease										
3.00 PREPARING	COMPTAGE									
4.00 PREHEAT 1	529°C	0:30	air			701				
5.00 WATER TEM										
6.00 SOL ANNEAL	529°C	0:40	AIR		WATER 32MAX	701				
7.00 QUENCHDE										

METCOR INC.
 560 BOUL. ARTHUR-SAUVÉ
 ST-EUSTACHE, QC, J7R 5A8
 Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé
 Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
175178	1

CLIENT / customer 215

DART AEROSPACE
 1270 ABERDEEN
 HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
 1270 ABERDEEN
 HAWKESBURY

ON K6A 1K7

Operation	Temp. spécifiée Specified Temp	Temps de trempage Spécifié Specified Soak Temp	Atmosphère	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
8.00 QUENCH TI										
9.00 WATER TEN										
10.00 CRYOGENIK	-29		AZOTE							
11.00 Pack	-68		CO2							
12.00 FINAL INSP							04-17-2012			04-17-2012

COMMENTAIRES / comments

APPROUVÉ par / Approved by:

DATE: 2012-04-23

/ Nous certifions que toute l'information comprise sur ce rapport est exacte et conforme aux requis du client. / We certify that all the information on this report is exact and in accordance with the order requirements.

1944

Linda Lacelle

From: Isam El-Kassis <ielkassis@dartaero.com>
Sent: September-06-12 3:54 PM
To: 'Linda Lacelle'
Subject: FW: 206 swaging test requirements.

Hi Linda,

Please see below for swaging tubes, please pass it along to Dan.
We should move on this project ASAP,
We'll be having a large order in front of us, therefore we need to prove the swaging operation.

Thank you,

Isam

From: Chris Provencal [<mailto:cprovencal@dartaero.com>]
Sent: Thursday, September 06, 2012 3:48 PM
To: David Duval; Mike Petsche; Isam el Kassis
Subject: RE: 206 swaging test requirements.

The actual swaging should be per the c'bore instruction on D2650, which is 0.313 DIA x 0.75 DP

From: Chris Provencal [<mailto:cprovencal@dartaero.com>]
Sent: Thursday, September 06, 2012 3:42 PM
To: David Duval; Mike Petsche; Isam el Kassis
Subject: 206 swaging test requirements.

David,

Swaging test pieces needed:

5 welded x-bolt spacers with I-beam
5 welded x-bolt spacers with no I-beam
5 swaged x-bolt spacers with I-beam
5 swaged x-bolt spacers with no I-beam

3" long skid tube sections each.

Recommend that the x-bolt spacers themselves be cut 3.245" long (if not already cut)

Need to let the swaged skid sections sit for at least a week to see if they develop any cracks before we load test them

-Chris

RD3425

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. E	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-E-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>ER</i>	APPROVED <i>#</i>	DE APPR. <i>#</i>			
DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13			

PURPOSE:

CHANGE ALL C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

WAS

QTY	QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045	-047		
20	24	25	D2579	CROSS BOLT SPACER

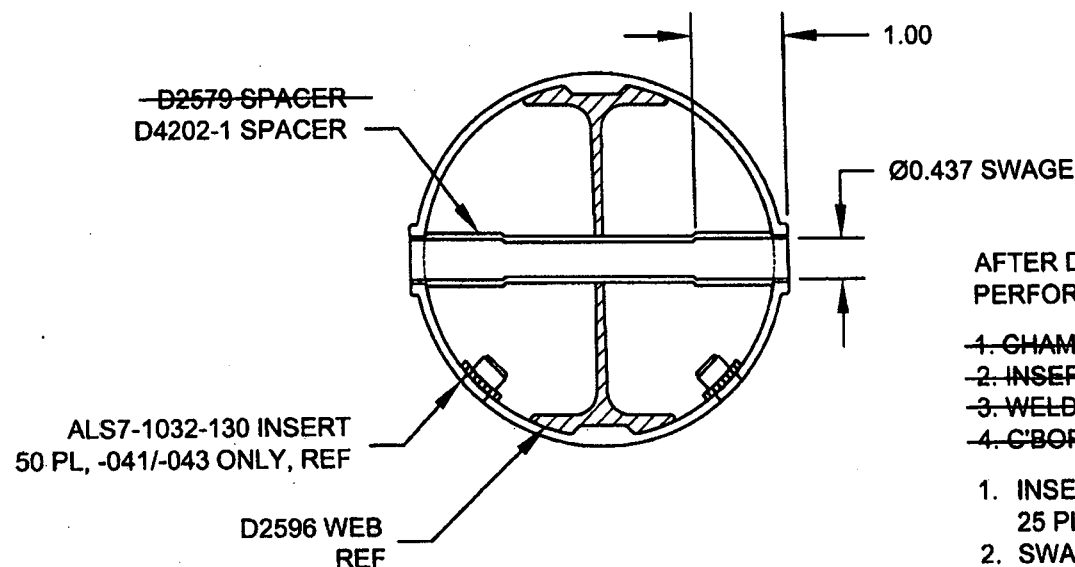
IS

	4		* D2579	CROSS BOLT SPACER
20	20	25	D4202-1	SPACER

SECTION B-B, SECTION F-F, & SECTION I-I ARE AMENDED AS FOLLOWS
FOR ALL HOLES THAT WERE ORIGINALLY C'BORED:

*** FOR -045 SKIDTUBE ONLY:**
WELD 4X D2579 SPACERS PER DWG
IN LOCATIONS MARKED "NO C'BORE".
REF SHEET 4 OF DWG.

RELEASED
2011-12-14



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

- ~~1. CHAMFER HOLE 0.050 X 45°~~
- ~~2. INSERT D2679 SPACER (20 PLACES)~~
- ~~3. WELD INTO PLACE AND GRIND FLUSH~~
- ~~4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP~~

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 20 PL (-045) OR 25 PL (-047)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

SECTION B-B, F-F, I-I
NOT TO SCALE

Material Requisitions

R/S#: _____

Part Number: M 606IT6A1.000 W. 125 Batch #: M 122681 Quantity: 6"Received/taken by: Dececk Date: 12/09/10**USED FOR:** (must be completed)

Engineering Project # P _____

OR

Shop Tooling (non-work order) _____

Continues progress skid tube table's

H:\forms\purchase\approved purch\MATREQ revB

Material Requisitions

R/S#: _____

Part Number: D2600-1-190 Batch #: 69622 Quantity: 1Received/taken by: DAN Date: 12/09/10**USED FOR:** (must be completed)

Engineering Project # P _____

OR

Shop Tooling (non-work order) _____

RD 3425

H:\forms\purchase\approved purch\MATREQ revB

Material Requisitions

R/S#: _____

Part Number: D2649 Batch #: 388529 Quantity: 10Received/taken by: BARCLAY Date: 12-09-19**USED FOR:** (must be completed)

Engineering Project # P _____

OR

Shop Tooling (non-work order) RD 3425

David Duval

From: Chris Provencal <cprovencal@dartaero.com>
Sent: Thursday, September 06, 2012 3:48 PM
To: David Duval; Mike Petsche; Isam el Kassis
Subject: RE: 206 swaging test requirements.

The actual swaging should be per the c'bore instruction on D2650, which is 0.313 DIA x 0.75 DP

From: Chris Provencal [<mailto:cprovencal@dartaero.com>]
Sent: Thursday, September 06, 2012 3:42 PM
To: David Duval; Mike Petsche; Isam el Kassis
Subject: 206 swaging test requirements.

David,

Swaging test pieces needed:

5 welded x-bolt spacers with I-beam
5 welded x-bolt spacers with no I-beam
5 swaged x-bolt spacers with I-beam
5 swaged x-bolt spacers with no I-beam

3" long skid tube sections each.

Recommend that the x-bolt spacers themselves be cut 3.245" long (if not already cut)

Need to let the swaged skid sections sit for at least a week to see if they develop any cracks before we load test them

-Chris

$$3.75 - .058 - .058 = 2.59$$

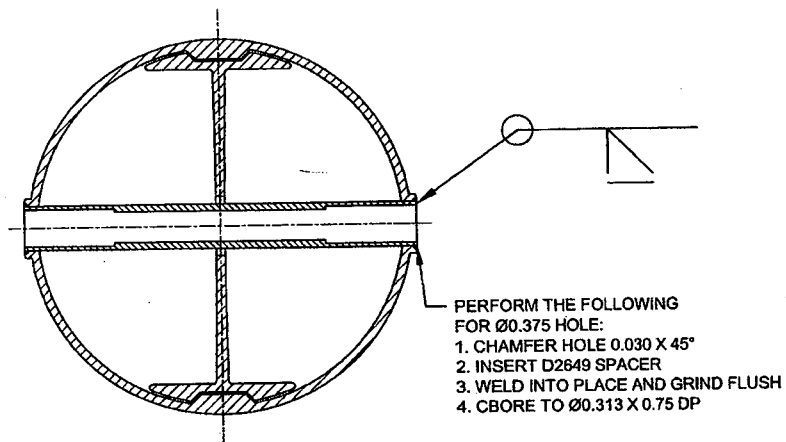
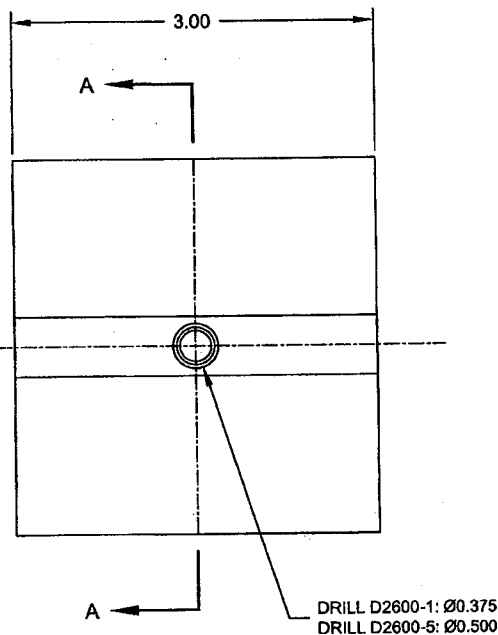
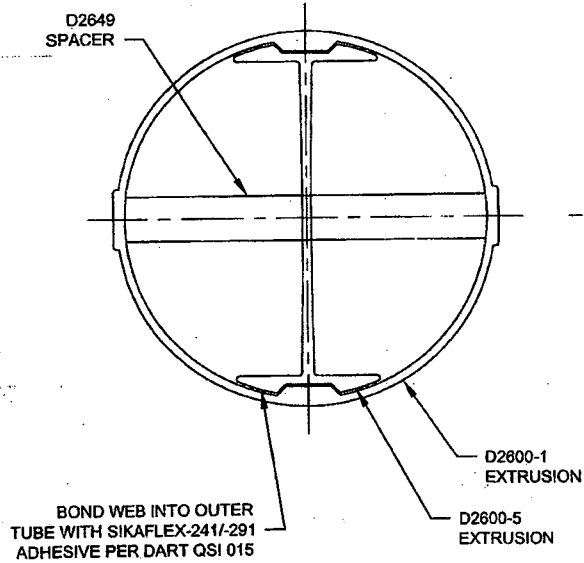
$$2.59 \div 3.13 = 0.83$$

$$100 - 83 = 17\%$$

~~17%~~

Need to expand 17% not good for TG.
Not more than 12%

REFERENCE ONLY



SECTION A-A

DSK134-1 TEST SAMPLE (WELDED W/ I-BEAM)

PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
9/12/9/11

DESIGN	Q	DART AEROSPACE LTD	
DRAWN	Q	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		DSK 134	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		SWAGING TEST SAMPLES (206 SKID)	NTS
DATE	12.09.11	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

D2649
SPACER

D2600-1
EXTRUSION

DRILL D2600-1: Ø0.375

- PERFORM THE FOLLOWING
FOR Ø0.375 HOLE:
1. CHAMFER HOLE 0.030 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORE TO Ø0.313 X 0.75 DP

SECTION B-B

DSK134-3 TEST SAMPLE (WELDED W/O I-BEAM)

PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
12/9/11

DESIGN	Q	DART AEROSPACE LTD	
DRAWN	Q	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		DSK 134	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		SWAGING TEST SAMPLES (206 SKID)	NTS
DATE	12.09.11	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESSED CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

D2649
SPACER,
HT TO T4
CONDITION

BOND WEB INTO OUTER
TUBE WITH SIKAFLEX-241/-291
ADHESIVE PER DART QSI 015

D2600-1
EXTRUSION
D2600-5
EXTRUSION

DRILL D2600-1: Ø0.375
DRILL D2600-5: Ø0.500

DSK134-5 TEST SAMPLE (SWAGED W/ I-BEAM)

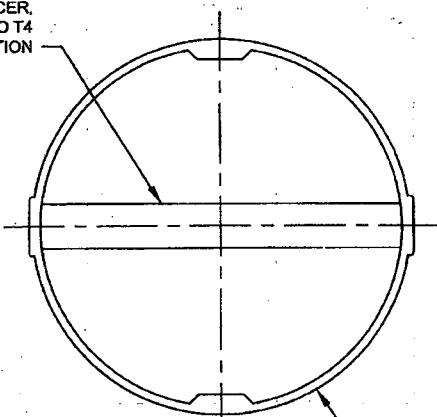
SECTION C-C

PERFORM THE FOLLOWING
FOR Ø0.375 HOLE:
1. INSERT D2649 SPACER
2. SWAGE TO Ø0.313 X 0.75 DP
PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002

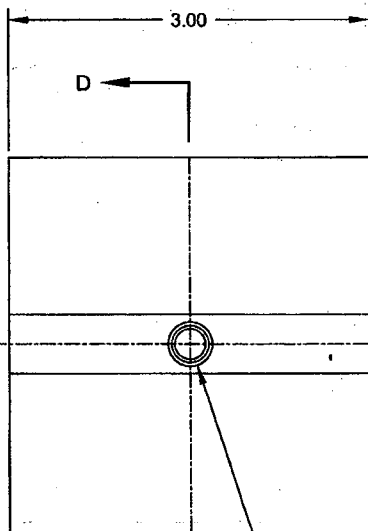
PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
12/9/11

DESIGN	92	DART AEROSPACE LTD	
DRAWN	92	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		DSK 134	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		SWAGING TEST SAMPLES (206 SKID)	NTS
DATE	12.09.11	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

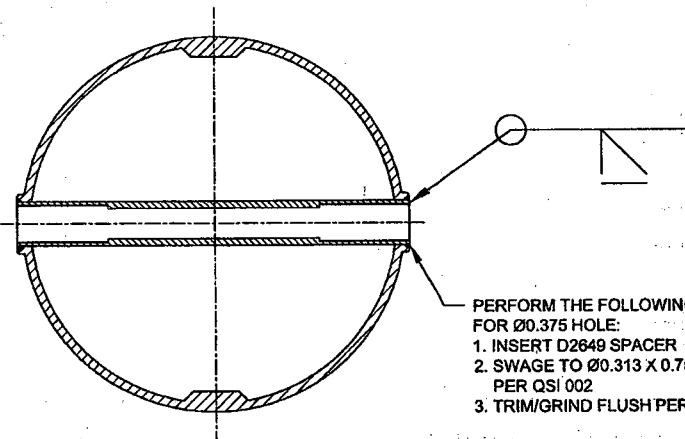
D2649
SPACER,
HT TO T4
CONDITION



D2600-1
EXTRUSION



DRILL D2600-1: Ø0.375



- PERFORM THE FOLLOWING
FOR Ø0.375 HOLE:
1. INSERT D2649 SPACER
 2. SWAGE TO Ø0.313 X 0.75 DP
PER QSI 002
 3. TRIM/GRIND FLUSH PER QSI 002

SECTION D-D

DSK134-7 TEST SAMPLE (SWAGED W/O I-BEAM)

PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
12/9/11

DESIGN	DP	DART AEROSPACE LTD	
DRAWN	DP	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. DSK 134	REV. A
MFG. APPR.		TITLE	SHEET 4 OF 4
APPROVED		SWAGING TEST SAMPLES (206 SKID)	SCALE
DE APPR.			NTS
DATE	12.09.11	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	